【63】

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学位授与の要件	学位規則第４条第１項該当 医学系研究科内科系臨床医学専攻
学位論文名	THE RELATION BETWEEN CAROTID PLAQUE ECHOGENICITY AND OXIDATIVE STRESS MARKER 8-ISO-PROSTAGLANDIN $F_{2\alpha}$ （頚動脈粥腫の超音波輝度と酸化ストレスマーカーとの関連について）
論文審査委員	（主査） 教　授　望月　秀樹 （副査） 教　授　吉峰　俊樹　　教　授　楽木　宏実

論 文 内 容 の 要 旨

〔 目 的 〕

Background:Echolucent plaques are associated with high risk of ischemic cerebrovascular events. Oxidative stress has been implicated in the process of atherosclerotic plaque development from initiation to progression. We assessed the relation between carotid plaque echogenicity and urinary 8-iso-prostaglandin $F_{2\alpha}$, as an index of oxidative stress.

〔 方法ならびに成績〕

Methods: This cross-sectional study was conducted prospectively on 290 consecutive outpatients. Each patient was evaluated for carotid plaque echogenicity using the gray scale median at the maximal thickness plaque and urinary 8-iso-prostaglandin $F_{2\alpha}$ using enzyme linked immunosorbant assay. Results:By Pearson correlation analysis, we found significant negative linear relation between gray scale median values and the urinary 8-iso-prostaglandin $F_{2\alpha}$ levels ($r = -0.133$, $P = 0.023$). This correlation remained significant after adjustment for atherosclerotic risk factors, thickness of the maximal plaque and medication use ($\beta = -0.137$, $P = 0.031$).

〔 総 括 〕

Conclusion:We herein show that higher levels of urinary 8-iso-prostaglandin $F_{2\alpha}$ is associated with lower plaque echogenicity.

論文審査の結果の要旨

Echolucent plaques are associated with high risk of ischemic cerebrovascular events. Oxidative stress has been implicated in the process of atherosclerotic plaque development from initiation to progression. Dr. Nassar employed carotid ultrasonography and assessed the relation between carotid plaque echogenicity and urinary 8-iso-prostaglandin $F_{2\alpha}$, as an index of oxidative stress. This cross-sectional study was conducted prospectively on 290 consecutive outpatients. Each patient was evaluated for carotid plaque echogenicity using the gray scale median at the maximal thickness plaque and urinary 8-iso-prostaglandin $F_{2\alpha}$ using enzyme linked immunosorbant assay. By Pearson correlation analysis, she found significant negative linear relation between gray scale median values and the urinary 8-iso-prostaglandin $F_{2\alpha}$ levels ($r = -0.133$, $P = 0.023$). This correlation remained significant after adjustment for atherosclerotic risk factors, thickness of the maximal plaque and medication use ($\beta = -0.137$, $P = 0.031$). She herein shows that higher levels of urinary 8-iso-prostaglandin $F_{2\alpha}$ is associated with lower plaque echogenicity.

This study was the first study to assess the relation between plaque echogenicity and oxidative stress marker urinary 8-iso-prostaglandin $F_{2\alpha}$. This finding may help in further development of non invasive methods to detect high risk plaques and prevention of ischemic stroke. Thus I believe this study is worth to be graduation thesis.